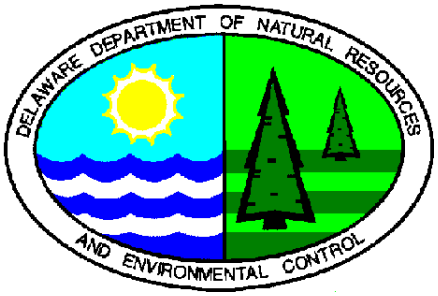

APPLICATION FOR A COASTAL ZONE ACT PERMIT

State of Delaware
Department of Natural Resources & Environmental Control
Office of the Secretary

February 10, 2015
42 Lukens Drive, New Castle DE Recycling Facility Application
Green Recovery Technologies, LLC

Table of Contents

Permit Application Instructions

1. Complete all parts of the application. For sections which are not applicable to your project, do not leave blank; present a statement that clearly states why the section is not applicable to your project.

2. Because all applicants' projects are different, this word document template will provide you flexibility for needed space to answer the questions. Please insert additional lines for text where needed for your application. If appropriate, attach extra pages referencing each answer by the corresponding section and question number.

3. Submit eight complete hard copies of the permit application to:

   Office of the Secretary
   Department of Natural Resources & Environmental Control
   State of Delaware
   89 Kings Highway
   Dover, DE 19901

   In addition to the eight hard copies, submit a complete electronic "pdf" copy of the permit application and a copy of the Offset Matrix in Microsoft Word format on cd-rom.

4. Comply, if required, or as requested by the DNREC Secretary, with 7 Delaware Code, Chapter 79, Section 7902. If requested, but not completed, your application will not be considered administratively complete until this form is reviewed.

5. Be sure to include your permit application fee of $3,000; otherwise the application will not be considered administratively complete. Make checks payable to the "State of Delaware."

6. Be advised that the application for a Delaware Coastal Zone Act Permit is a public document, which may be displayed at DNREC offices, public libraries, and the web, among others. If this application requires you to place confidential information or data in the application to make it administratively complete, note the Delaware Freedom of Information Act (29 Delaware Code, Chapter 100) and DNREC's Freedom of Information Act Regulation, Section 6 (Requests for Confidentiality), for the proper procedure in requesting confidentiality.

Note: This application template was last revised by DNREC on January 30, 2008. Please discard any previous versions.

PART 1

CERTIFICATION BY APPLICANT

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

Green Recovery Technologies, LLC_____
Print Name of Applicant

_____
Signature of Applicant

_____
Title

_____
Date

PART 2

APPLICANT INFORMATION AND SITE IDENTIFICATION

Please see **Attachment 0** for Environmental Permit Application Background Statement

2.1 Identification of the applicant:

Company Name: Green Recovery Technologies, LLC
Address: 42 Lukens Drive, Suite 100, New Castle, DE 19720
Telephone: (302) 691-7458
Fax: (720) 302-4978

2.2 Primary contact: Please list the name, phone number and email of a preferred contact within your company in case the DNREC needs to contact you regarding this permit application.

Name: Kenneth Laubsch, President, Green Recovery Technologies, LLC
Telephone: (302) 691-7458
Email: klaubsch@greenrecoverytech.com

2.3 Authorized agent (if any):

Name: Stephanie L. Hansen, Young Conaway Stargatt & Taylor, LLP
Address: Rodney Square, 1000 North King Street, Wilmington, DE 19801
Telephone: (302) 571-6733
Fax: (302) 576-3519

If you have an authorized agent for this permit application process, provide written authorization from client for being the authorized agent.

See **Attachment 01**.

2.4 Project property location (street address):

42 Lukens Drive, Suite 100
New Castle, DE 19720

2.5 In a separate attachment, provide a general map of appropriate scale to clearly show the project site.

See **Attachment 02**.

2.6 Is the applicant claiming confidentiality in any section of their application?

NO

If yes, see instructions on page 3.

PART 3

PROJECT SUMMARY

Provide a one-page summary describing the proposed project. Include a brief quantitative description of the anticipated environmental impacts, and how the Environmental Offset Proposal will "clearly and demonstrably" more than offset any negative impacts.

GRT has developed a process that is capable of chemically separating high quality proteins and fats from a poultry fines feedstock into high quality feed ingredients for animal nutrition markets.

Inputs:

GRT's process begins with a purchased poultry fines feedstock from a third party vendor. GRT's process is sized to intake 4,200 lbs. per hour of poultry fines, which have a representative composition of 58% fat, 35% protein and 7% residual water in a solid-based format. Poultry fines, also referred to as Supplemental Protein Nutrient (SPN) by some in the poultry industry, originate as Dissolved Air Flotation (DAF) float generated during the normal course of poultry processing at a poultry dressing plant. At this time, the raw materials for all of the poultry fines originate from outside of Delaware. After being processed by the third party vendor, the poultry fines are placed into one ton, industrial-grade sealed plastic bins for truck transport to GRT at the estimated rate of 2 trucks of this feedstock per operations day. The feedstock will be manufactured to GRT specifications, is shelf-stable for as long as 12 months, and has a low odor potential due to bioinactivity as verified via laboratory testing prior to delivery to GRT.

Process:

GRT's process utilizes the liquefied gas dimethyl ether (DME) as the solvent to separate the protein fraction from the fat fraction of the feedstock. Even though DME is flammable, the solvent is run in a closed-loop with full solvent recovery and automatic gas monitoring. The process occurs in equipment with nitrogen blanketing to reduce flammability concerns and the process has an integrated automatic fire detection and containment system. GRT's process has been tested and determined to be safe and effective via pilot-scale trials. The system was designed with the assistance of licensed Professional Engineers, including engineers holding doctorate degrees in chemical engineering and other experienced personnel. The process has undergone extensive hazardous operations audits and environmental, safety and health audits throughout the design and equipment-build process and will ultimately yield an inherently safe system.

Outputs:

A *high purity protein stream* (free of fat) is produced at a rate of 0.7 tons per hour and bagged in 1-ton super sacks under a negative air filtration system. This material is transferred into trailers and shipped out at a rate of approximately 1 truck per day according to a prearranged, just-in-time shipping schedule. GRT intends to store no more than 3 days' worth of finished protein goods onsite in the event of a logistics breakdown.

A *high purity fat stream* (free of proteins) is produced at a rate of 1.2 tons per hour with output directly into a tanker truck in a closed, piped environment. Fat would be shipped out at a rate of approximately 1 tanker truck per day according to a prearranged, just-in time-shipping schedule. GRT intends to store no more than 3 days' worth of finished fat goods onsite in the event of a logistics breakdown.

Water is produced from the residual moisture in the feedstock as an output at a rate of 300 pounds per hour (approximately 36 gallons). This water is free of biological contaminants from the heat and filtration of the process and is piped into the county sewer system. The process also produces 1,000 lbs. per hour (approximately 119 gallons) of boiler condensate, which is discharged into the county sewer system.

Air emissions arise primarily from the 7.2MM BTU natural gas fired boiler and *Nitrogen* from the process is discharged to the air at a rate of 60 SCFH (standard cubic feet per hour). This nitrogen is created using on-site nitrogen generators. The process takes ambient air, compresses it, runs it through a membrane that splits the nitrogen from the oxygen, and exhausts the oxygen out as pure O2. Net nitrogen usage and emissions are zero since the process converts atmospheric air into nitrogen, and then releases it again with no additional contaminants.

Environmental Impacts

Water - No negative environmental impacts are expected from the GRT process.

Air - Greenhouse gas related emissions are limited to those naturally occurring from standard boiler. The boiler emissions will be offset at a 1.3:1 ratio with air credits obtained from the Delaware Economic Development Office. Nitrogen emissions will be net zero, as the air separation performed onsite will result in release of nitrogen and oxygen at the same quantities as atmospheric air.

The feedstock is transferred into the facility in a comingled state of protein and fat and does not pose a dust problem. It is shipped in closed containers to eliminate interaction with the environment. After further processing by GRT, the outgoing solid product is transferred to super sack containers under a negative air filtration system such that there are no air emissions during product loading.

Solid Waste – Office solid waste will be generated at 1.5 lbs. per employee per day based on DNREC guidelines, as shown in http://www.dnrec.state.de.us/del-offc.htm. With 15 office/administrative employees (maximum) projected, this comes to a daily rate of 22.5 lbs. of office solid waste per day or 5,625 lbs. office solid waste annually. This will

be offset through office solid waste recycling programs described in **Attachment 13**. Packaging waste will be recycled with pallets being reused and super sacks being returned to service. For pallets and super sacks that are damaged beyond the point of reuse, they will be returned to the manufacturer for reconditioning or recycling as necessary. Feedstock materials that do not meet GRT's specifications will be rejected and returned to the manufacturer. Depending on the quality test data, finished goods that do not meet GRT's purity standards will be reprocessed or sold for lower quality applications such as ruminant animal feed.

NOTE: Please review **Attachment 13** Environmental Offset Proposal for detailed quantitative analysis of impacts and associated offsets.

PART 4

PROJECT PROPERTY RECORD AND EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

PROJECT PROPERTY RECORD

4.1 Name and address of project premises owner(s) of record:

Riveredge II LLC
300 Water Street, Suite 300
Wilmington, DE 19801

4.2 Name and address of project premises equitable owner(s):

Riveredge II LLC
300 Water Street, Suite 300
Wilmington, DE 19801

4.3 Name and address of lessee(s):

Green Recovery Technologies LLC
42 Lukens Drive, Suite 100
New Castle, DE 19720

4.4 Is the project premises under option by permit applicant?

YES

4.5 What is the present zoning of the land for this entire project site?

The current property is zoned Heavy Industrial (HI). See **Attachment 03** for the zoning verification letter from New Castle County.

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

See <u>Attachment 03</u> in lieu of form below.

I, _____, for _____

(Name of County, City of Town)

do hereby affirm that the project proposed by_____

(Name of Applicant)

located at _____, in

(Address)

the _____ zoning district is in

full compliance with the zoning code as it applies to this project.

The above named applicant's project is in compliance with the adopted comprehensive development plan for the geographic area within which the project will be located.

_____

(Signature)

_____

(Title)

_____

(Date)

This part is essential for a complete Coastal Zone Act Permit Application. No application will be considered administratively complete without it. While the applicant is strongly advised to use this form, the local zoning jurisdiction may utilize a different form or document to demonstrate "evidence of local zoning approval," provided such documents are signed and dated by the proper official.

PART 5

PROJECT OPERATIONS

5.1 Describe the characteristics of the manufactured product and all the process and/or assembly operations utilized by the proposed project. Include in the description (use attachments if necessary):

a. the raw materials, intermediate products, by-products and final products and characteristics of each. Review any materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. Provide material safety data sheets (MSDS) if available;

Feedstock - A rendered, purchased, comingled stream of protein and fat designated poultry fines generated from within the poultry processing industry. The feedstock has a representative composition of 58% fat, 35% protein and 7% residual water in a solid-based format. See **Attachment 04** for the MSDS for the poultry fines feedstock.

Intermediate products - Separated nitrogen is used to remove oxygen from the system and to create an inert environment for protein and fat separation to occur (see **Attachment 06** for the Nitrogen MSDS). Liquefied dimethyl ether (DME) gas is used as the fractionation solvent and has the following attributes according to information published by the International DME Association (see **Attachment 05** for the DME MSDS):

- A clean, colorless gas that is easy to liquefy and transport. DME is the simplest ether compound, with a chemical formula of C2H6O.
- DME has been used for decades in the personal care industry (as an environmentally benign propellant in aerosols), as DME is non-toxic and is easily degraded in the troposphere.
- At standard temperature and pressure, DME is a gas, but can be liquefied under a moderate pressure. It shares these characteristics with other commonly-used gases, such as propane and liquefied petroleum gas.
- DME was first used as aerosol propellant because it is environmentally benign and not harmful to the ozone layer, unlike the CFCs that it replaced.
- DME producer DuPont Fluorochemicals (which markets DME under the product name "Dymel A"), provides a technical bulletin that gives a good overview of the physical and chemical properties of DME. The results of their own health and safety studies show: "A two-year inhalation study and carcinogenicity bioassay at exposure levels of up to 20,000 ppm showed no compound-related effects..., no signs of carcinogenicity..., and no evidence of mutagenicity or teratogenicity in separate reproductive studies. Based on all these studies, the product has been approved by the DuPont Company for general aerosol use, including in personal products."

Final products - A *high purity protein stream* (free of fat) is produced at a rate of approximately 0.7 tons per hour and bagged in 1-ton super sacks under a negative pressure air filtration system. This is shipped out in trucks at a rate of approximately 1 truck per day (See **Attachment 07** for the GRT Protein MSDS). A *high purity fat stream* (free of proteins) is produced at a rate of approximately 1.2 tons per hour and output directly to a tanker truck in a closed, piped environment. This is shipped out at a rate of approximately 1 tanker truck per day (See **Attachment 08** for the GRT Fat MSDS).

b. the step-by-step procedures or processes for manufacturing and/or assembling the product(s). Provide a flow diagram to illustrate procedures;

See **Attachment 09.**

c. the nature of the materials mentioned above in 4.1(a) as to whether or not the materials require special means of storage or handling;

GRT transports and stores its feedstock in 1 ton, industrial-grade sealed plastic bins. For the poultry fines, GRT personnel are required to store the product away from open flame or excessive heat. It should also be kept away from strong oxidizers. Personal protective equipment as specified in the MSDS should be used when handling this product.

The DME is stored in a 1,250 gallon aboveground storage tank with temperature and pressure control to safely maintain the 1,000 gallons of liquid DME contained in the tank. GRT personnel are required to follow the MSDS instructions as well as GRT's written safety protocols when handling this product.

For the nitrogen gas, GRT personnel are required to follow the MSDS instructions as well as GRT's written safety protocols when handling this product.

For the manufactured protein product, GRT personnel are required to store the product away from open flame or excessive heat. It should also be kept away from strong oxidizers. Personal protective equipment as specified in the MSDS should be used when handling this product.

For the manufactured fat product, GRT personnel are required to store the product away from open flame or excessive heat. It should also be kept away from strong oxidizers, acids and alkalis. Personal protective equipment as specified in the MSDS should be used when handling this product.

d. list the machinery (new and/or existing) to be utilized by this project;

See **Attachment 10**

e. list any new buildings or other facilities to be utilized;

No new buildings will be constructed.

f. list the size and contents of any anticipated aboveground or underground storage tank systems that may be constructed or utilized in support of facility operations;

One 1,250 gallon aboveground liquefied gas storage tank, appropriately secured and monitored and registered with DNREC's Boiler and Pressure Vessel Safety Office will be utilized. It is scheduled to hold 1,000 gallons of liquid DME.

g. if this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production?

This is not an existing facility.

h. if this project represents a totally new facility at a new or existing site, what will be the maximum production rate?

A *high purity protein stream* (free of fat) is produced at a rate of 0.7 tons per hour and bagged in 1 ton super sacks under a negative air filtration system. This is shipped out in trucks at a rate of approximately 1 truck per day.

A *high purity fat stream* (free of proteins) is produced at a rate of 1.2 tons per hour and output directly to a tanker truck in a closed, piped environment. This is shipped out at a rate of approximately 1 tanker truck per day.

5.2 Describe daily hours of plant operations and the number of operating shifts.

Two 12-hour shifts per day, 6 days per week (Monday through Saturday) for production. As production matures, operations could shift to three 8-hour shifts per day, 6 days per week (Monday thorough Saturday).

Two 12-hour shifts on Sundays and off days to monitor process equipment, perform maintenance and other activities associated with non-production operations.

5.3 Provide a site plan of this project with:

a. a north arrow;

b. a scale of not less than one inch to 200 feet;

c. identity of the person responsible for the plan, including any licenses and their numbers;

d. the acreage of the applicant's entire property and acreage of the proposed project;

e. property lines of entire property;

f. lines designating the proposed project area for which application is being made, clearly distinguished from present facilities and operating areas (if any);

g. existing and proposed roads, railroads, parking and loading areas, piers, wharfs, and other transportation facilities;

h. existing water bodies and wetlands and proposed dredge and fill areas, and;

i. existing and proposed drainage ways, gas, electric, sewer, water, roads, and other rights-of-way.

See **Attachment 11.**

5.4 How many acres of land in total are required for this proposed project?

Existing/ currently utilized/ developed land: _____0.50_____acres.

New land: _____0.00_____acres.

5.5 Has the property been involved with a state or federal site cleanup program such as Superfund, Brownfields, HSCA Voluntary Cleanup Program, RCRA Corrective Action, Aboveground or Underground Storage Tank Cleanup Programs? If so please specify which program.

This property has not been involved with a state or federal site cleanup program.

5.6 With regards to environmental cleanup actions, has a Uniform Environmental Covenant, Final Plan of Remedial Action, or no further action letter been issued

by the Department? If so are the planned construction activities consistent with the requirements or conditions stated in these documents?

This property has not been involved with a state or federal site cleanup program.

PART 6A

ENVIRONMENTAL IMPACTS

Air Quality

6.1 Describe project emissions (new, as well as any increase or decrease over current emissions) by type and amount under maximum operating conditions:

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions		Percent Change (compare tons/year)
	Lbs./day	*Tons/year*	*Lbs./day*	*Tons/year*	*Lbs./day*	*Tons/year*	
NOx	0	0	29.9	5.0	29.9	5.0	100%
CO	0	0	13.2	2.2	13.2	2.2	100%
CO2	0	0	18,903	3,175	18,903	3,175	100%
Lead	0	0	0	0	0	0	0%
N2O	0	0	0.3	0.05	0.3	0.05	100%
SO2	0	0	0.1	0.01	0.1	0.01	100%
TOC	0	0	1.7	.30	1.7	.30	100%
Methane	0	0	0.4	0.06	0.4	0.06	100%
VOC	0	0	0.9	0.15	0.9	0.15	100%

6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error.

In selecting equipment and designing the facility's processes, GRT employs state of the art technology in order to achieve effective and safe operation of the plant while simultaneously mitigating adverse environmental impacts. GRT will develop operating procedures and training programs to keep personnel, equipment and facility safe and efficient. GRT will also develop and implement, with consideration of the equipment manufacturer' specifications, a robust maintenance program and schedule to maximize plant availability while minimizing malfunctions.

By regulatory definition, a malfunction may arise due to aberrational conditions that could not reasonably have been foreseen nor prevented, notwithstanding effective operation, maintenance and upkeep practices. Additionally, even in the best manufacturing plants staffed by the most highly trained personnel, human error may occur on an isolated basis. Therefore, GRT has invested significant capital to detect, isolate and shutdown the facility when a malfunction occurs. For example, dimethyl ether (DME) is not vented during normal operating conditions. However, in the event of a mechanical malfunction or human error, the process detection and control systems take over and make the system safe via gas isolation and process pressure relief. When a zone within the plant exceeds operating pressures or detection threshold limit, the plant control

system will vent that zone through a properly sized ASME rated relief device. This device will only vent DME until the pressure is brought below the critical level.

6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 6.1.

Natural gas has been specified as the fuel for the boiler. Natural gas is inherently low in VOCs and particulate matter. A minimal sized boiler was specified to prevent unnecessary emissions. Boiler emissions have been offset with air emission credits. Emissions will be controlled by following good combustion control practices and by employing a regularly scheduled boiler maintenance program.

6.4 Show evidence that applicant has, or will have, the ability to maintain and utilize this equipment listed in 5.3 in a consistently proper and efficient manner. (For example, provide college transcripts and/or records of training courses and summary of experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms to be responsible for maintaining and utilizing this equipment.)

GRT's operations and maintenance personnel will consist of highly qualified personnel and will be complimented by specialized contractor skills as needed. These personnel will be required to undergo extensive training to safely and successfully operated and maintain the facility. This training will span review of standard operating procedures, certification of certain critical skills (e.g. forklift operation etc.) and classroom training as required.

All reviews and commensurate control advice has been provided by Verrico Associates (Verrico), environmental, health, safety and security (EHS&S) consultant. Verrico has been in the EHS&S business for over 20 years, and Associates include former Coastal Zone Commissioner Donald J. Verrico and a number of additional regulatory experts and associates. In addition, the organization has met with the DNREC Regulatory Advisory Service (RAS) to review and verify its plans and necessary EHS&S expertise. The necessary pollution controls will be operated by certified operators and serviced by licensed contractors as applicable. Verrico Associates' Statement of Qualifications is provided as **Attachment 12**.

Water Quality

6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations:

Water is produced from the residual moisture in the feedstock as an output at a rate of 300 pounds per hour (approximately 36 gallons). This water is free of biological contaminants from the heat and filtration of the process and is piped into the county sewer system. The process also produces 1,000 lbs. per hour (approximately 119 gallons) of boiler condensate, which is discharged into the county sewer system.

Pollutant	**Current Discharge Concentration (ppm)**	**New or Changed Discharge Concentration (ppm)**	**Current Discharge**		**Net Increase/Decrease**		**New Total Emissions**	
			Lbs./day	*Tons/year*	*Lbs./day*	*Tons/year*	*Lbs./day*	*Tons/year*
Not Applicable								

6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project.

Site uses the county sewer for employee sanitary wastewater disposal and no changes are required.

6.7 Identify the number, location, and name of receiving water outfall(s) of any and all process wastewater discharge (new or current) affected by this proposed project. Provide NPDES Permit Numbers for each discharge affected.

Not applicable as there is no process wastewater discharge to a receiving water outfall.

6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program.

No pretreatment for steam condensate, employee sanitary wastewater and input stream moisture.

6.9 Stormwater:

a. Identify the number, location, and name of receiving waters of stormwater discharges. Provide permit number for each discharge.

NOT APPLICABLE

b. Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc).

One facility roof, front paved parking lot and rear paved loading dock. All sources are consistent with existing facility and no permit is required.

c. Describe the amount of stormwater run-off increase over current levels that will result from the proposed project.

There will be no increase in stormwater run-off due to the proposed project.

d. Describe any pollutants likely to be in the stormwater.

NONE

e. Describe any pollution control device(s) or management technique(s) to be used to reduce the amount of stormwater generated, and devices to improve the quality of the stormwater run-off prior to discharge.

NOT APPLICABLE

f. Describe any new or improved stormwater drainage system required to safely carry off stormwater without flooding project site or neighboring areas down gradient.

There will be no change in stormwater as no new impervious surfaces will be added as part of this project, moreover no pollutants/pollutant sources will be added to the external areas of the facility where stormwater could be affected.

6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?

NO

If yes, state:

a. the volume of water to be withdrawn, and;

b. describe what will be done to prevent entrainment and/or entrapment of aquatic life by the intake device.

6.11 Will this proposed project result in a thermal discharge of water, or an increase in the flow or temperature of a current thermal discharge?

NO

If yes, state:

a. the volume of the new flow or increase from the existing thermal discharge, both in flow and amount of heat;

b. how warm will the water be when it is discharged into a receiving waterway, discharge canal, or ditch, and what will be the difference in discharge temperature and ambient temperature (delta T) at various seasons of the year after all cooling water mechanisms have been applied to the hot water?

c. the equipment and/or management techniques that will be used to reduce the thermal load of the discharge water.

6.12 Will any proposed new discharge or change in existing discharge cause, or have potential to cause, or contribute to, the exceedence of applicable criteria appearing in the "State of Delaware Surface Water Quality Standards"?

NO

If yes, explain:

6.13 Describe any oils discharged to surface waters due to this proposed project.

No oils will be discharged to surface waters due to this proposed project.

6.14 Describe any settleable or floating solid wastes discharged to surface waters due to this project.

No settleable or floating solid wastes will be discharged to surface waters.

6.15 Show evidence that the applicant has, or will have, the ability to maintain and utilize any water pollution control equipment listed in questions 5.5 through 5.14 in a consistently proper and efficient manner. (For example, provide operator license numbers, college transcripts and/or training courses and summary of prior experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms.)

No water pollution control equipment is necessary.

6.16 Estimate the amount of water to be used for each specified purpose including cooling water. State daily and maximum water use in the unit of gallons per day

for each purpose and source of water. State if water use will vary with the seasons, time of day, or other factors.

Process water usage consists of a maximum of 25,200 gallons per day in the summer months (i.e. 3,600 gallons/day boiler condensate and 21,600 gallons/day cooling tower evaporation). During the winter months, the maximum expected water usage not expected to exceed 13,500 gallons per day total. Water usage will be limited during non-production times (e.g. weekends, scheduled plant shutdown, maintenance activities etc.) to promote conservation of resources.

6.17 Identify the source of water needed for the proposed project, including potable water supplies.

Municipal water supplied by Artesian

6.18 Are wells going to be used?

NO

If yes:

a. Identify the aquifer to be pumped and the depth, size and pumping capacity of the wells.
b. Has a permit been applied for to do this?
c. How close is the proposed well(s) to any well(s) on adjacent lands?

Solid Waste

6.19 Will this project result in the generation of any solid waste?

YES

If yes, describe each type and volume of any solid waste (including biowastes) generated by this project, and the means used to transport, store, and dispose of the waste(s).

Office waste (such as paper, packaging, etc.) will be generated and recycled to the extent possible. Packaging waste will be reused and/or recycled by the manufacturer.

6.20 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?

YES

If yes, describe:

Office paper and other office solid waste will be recycled in appropriate bins, collected by waste disposal company and transported to an appropriate disposal location outside of the Coastal Zone.

6.21 Will any waste material generated by this project be destroyed on-site?

NO

If yes, how will that be done?

Hazardous Waste

6.22 Will this proposed project result in the generation of any hazardous waste as defined by the "Delaware Regulations Governing Hazardous Waste"?

NO

If yes, identify each hazardous waste, its amount, and how it is generated:

6.23 Describe the transport of any hazardous waste and list the permitted hazardous waste haulers that will be utilized.

No hazardous waste will be transported.

6.24 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?

NO

If yes, describe:

6.25 Does the applicant currently generate any hazardous waste at this site?

NO

If yes, describe:

Habitat Protection

6.26 What is the current use of the land that is to be used for the proposed project?

The land is currently an industrial park.

6.27 Will the proposed project result in the loss of any wetland habitat?

NO

If yes, describe:

6.28 Will any wastewater and/or stormwater be discharged into a wetland?

NO

If yes, will the discharge water be of the same salinity as the receiving wetlands?

6.29 Will the proposed project result in the loss of any undisturbed natural habitat or public use of tidal waters?

NO

If yes, how many acres?

6.30 Do threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act) exist at the site of the proposed project, or immediately adjacent to it?

NO

If yes, list each species:

6.31 Will this proposed project have any effect on these threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act).

NO

If yes, explain:

6.32 What assurances can be made that no threatened or endangered species exist on the proposed project site?

An environmental survey of the facility and grounds was completed by Verrico Associates and did not identify any threatened or endangered species.

6.33 Describe any filling, dredging, or draining that may affect nearby wetlands or waterways.

There will be no filling, dredging or draining.

6.34 If dredging is proposed, how much will occur and where will the dredged materials go for disposal?

Dredging is not proposed.

Other Environmental Effects

6.35 Describe any noticeable effects of the proposed project site including: heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects.

There will be no noticeable effects of the operation on heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects.

6.36 Describe what will be done to minimize and monitor such effects.

None anticipated, but production operations personnel will be responsible for monitoring other environmental effects and proposing corrective actions.

6.37 Describe any effect this proposed project will have on public access to tidal waters.

There will be no change to tidal water access due to this proposed project.

6.38 Provide a thorough scenario of the proposed project's potential to pollute should a major equipment malfunction or human error occur, including a description of backup controls, backup power, and safety provisions planned for this project to minimize any such accidents.

In selecting equipment and designing the facility's processes, GRT employs state of the art technology in order to achieve effective and safe operation of the plant while simultaneously mitigating adverse environmental impacts. GRT will develop operating procedures and training programs to keep personnel, equipment and facility safe and efficient. GRT will also develop and implement, with consideration of the equipment manufacturer' specifications, a robust maintenance program and schedule to maximize plant availability while minimizing malfunctions.

Potential to pollute would be as a result of product or intermediate processing agents escaping the process. There are (4) sources of potential pollution; infeed, intermediate products, finished protein and finished fat.

Infeed: Should an event occur that released infeed material, this would be done within the confines of the building and pose no pollution threat. This material is non-hazardous and solid with no dust concerns. A release of infeed would be cleaned up by sweeping the material with a broom and placing it into a covered storage bin. The material would be tested to determine if it meets feedstock requirements. If it does, it would be processed through the equipment in a normal manner. If not, it would be returned to the manufacturer. GRT personnel are required to wear gloves

during this operation in addition to our standard personal protective equipment (i.e. safety glasses, safety shoes, hardhat).

Intermediate: Should an event occur that released intermediate products (nitrogen or DME), this would occur either within the confines of the building, or in an outdoor, diked area. Any solid or liquid contaminant would be contained within the dike or the building and would pose no threat of pollution. Should DME be released into the air within the building or outside the building, automatic gas detection and shutoff devices would activate to keep the plant, its personnel and our neighbors safe. As stated in Section 6.2, in the event of a mechanical malfunction or human error, the process detection and control systems take over and make the system safe via gas isolation and process pressure relief. When a zone within the plant exceeds operating pressures or detection threshold limit, the plant control system will vent that zone through a properly sized ASME rated relief device. This device will only vent DME until the pressure is brought below the critical level.

Protein: Should an event occur that released finished protein, this would be done within the building or through a dust collector on the protein bagging system. This material is non-hazardous and solid, but does pose a dust concern. A release within the building would be contained within the building and not pose a pollution threat. The material would be swept up with a broom and placed into a Super Sack. GRT personnel are required to wear gloves and a respirator during this operation in addition to our standard personal protective equipment (i.e. safety glasses, safety shoes, hardhat). The material would be tested to determine if it meets finished product requirements. If it does, it would be sent to our customers in a normal manner. If not, it would be reprocessed at the factory to purify the material.

Fat: Should an event occur that released finished fat, this would occur either inside the building, inside the diked area, or at the truck loading station. Both inside the building and in the diked area would not pose a threat of pollution leaving the facility. At the truck loading station, the area will be monitored by plant personnel. In the unlikely event of an accidental discharge of fat, plant personnel will follow GRT Standard Operating Procedures (SOP) to contain the spill using a commercial spill kit. The area would be further cleaned using Oil Dry. GRT personnel are required to wear gloves during this operation in addition to our standard personal protective equipment (i.e. safety glasses, safety shoes, hardhat).

6.39 Describe how the air, water, solid and hazardous waste streams, emissions, or discharge change in the event of a major mechanical malfunction or human error.

The concrete diking around the outside process module provides protection against water impact, regarding both process water inadvertently discharging from the dike as well as surface water flooding the equipment due to an outside storm surge. Air impact of DME due to error or malfunction is contained through automatic shutoff devices. In the event of a major malfunction, the system is designed to shut down in a normally closed state such that infeeds and outfeeds are closed. No further processing occurs.

PART 6B

ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM

Is applicant claiming the right to have a reduced offset proposal due to past voluntary improvements as defined in the "Regulations Governing Delaware's Coastal Zone"?

NO

If yes, provide an attachment to the application presenting sufficient tangible documentation to support your claim.

PART 6C

ENVIRONMENTAL OFFSET PROPOSAL

If the applicant or the Department finds that an Environmental Offset Proposal is required, the proposed offset project shall include all the information needed to clearly establish:

A. A qualitative and quantitative description of how the offset project will "*clearly and demonstrably"* more than offset the negative impacts from the proposed project.

See **Attachment 13**: "Environmental Offset Proposal"

B. How and in what period of time the offset project will be carried out.

The offset will be completed during the first 18 months of operation.

C. What the environmental benefits will be and when they will be achieved.

Environmental benefits: The environmental benefits will be realized immediately. The air credits offset actual emissions at a ratio of 1.3:1.

D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.

Emission credits used by DEDO in the past have shown immediate and long lasting benefits to the coastal zone.

E. How the success or failure of the offset project will be measured in both the short and long term.

DEDO credits have been proven as a viable method to offset emissions from within the coastal zone. These impacts will be immediate in both the short and long term.

F. What, if any, negative impacts are associated with the offset project.

None.

G. How the offset will impact the attainment of the Department's environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the Coastal Zone.

Emission credits used by DEDO in the past have shown immediate and long lasting benefits to the coastal zone.

Additional Offset Proposal Information for the Applicant

1. The offset proposals must "*clearly and demonstrably*"[1] more than offset any new pollution from the applicant's proposed project. The applicant can claim (with documentation) evidence of past voluntary environmental investments (as defined in the Regulations) implemented prior to the time of application. Where the Department concurs with the applicant that such has occurred, the positive environmental improvement of the offset proposal against the new negative impact can be somewhat reduced.

2. The applicant must complete the Coastal Zone Environmental Impact Offset Matrix. This matrix can be found on the CZA web page (http://www.dnrec.delaware.gov/Admin/CZA/CZAHome.htm, or by clicking on this link. On page one, the applicant must list all environmental impacts in the column labeled "Describe Environmental Impacts." In the column to the immediate right, the applicant should reference the page number of the application or attachment which documents each impact listed. In the "Describe Environmental Offset Proposal" column, applicant must state what action is offsetting the impact. The offset action shall be referenced by page number in the column to the right to show how the offset will work. The applicant shall not utilize the far right column. *Please ensure the matrix is complete, detailed, and as specific as possible, given the allotted space. Also, thoroughly proof-read to ensure there are no spelling or grammatical errors.* The applicant must submit a completed matrix both in hardcopy and electronic form.

3. Please note: the entire offset proposal, including the matrix, shall be available to the public, as well as the evidence of past voluntary environmental enhancements.

[1] For purposes of this requirement, the DNREC will interpret the phrase "clearly and demonstrably" to mean an offset proposal that is obviously so beneficial without detailed technical argument or debate. The positive environmental benefits must be obviously more beneficial to the environment than the new pollution that minimal technical review is required by the Department and the public to confirm such. The total project must have a positive environmental impact. The burden of proof is on the applicant.

PART 7

ECONOMIC EFFECTS

Construction

7.1 Estimate the total number of workers for project construction and the number to be hired in Delaware.

Approximately 60 construction workers, spanning framing, HVAC, piping, welding, mechanical, electrical, concrete and crane trades.

7.2 Estimate the weekly construction payroll.

$100,000 spanning 36 weeks.

7.3 Estimate the value of construction supplies and services to be purchased in Delaware.

$1,700,000.

7.4 State the expected dates of construction initiation and completion.

April 5, 2014 to December 11, 2014

7.5 Estimate the economic impact from the loss of natural habitat, or any adverse economic effects from degraded water or air quality from the project on individuals who are directly or indirectly dependent on that habitat or air or water quality (e.g. commercial fishermen, waterfowl guides, trappers, fishing guides, charter or head boat operators, and bait and tackle dealers).

There will be no negative economic impact due to loss of habitat, water/air quality or other issues related to the facility.

Operations

7.6 State the number of new employees to be hired as a direct result of this proposed project and how many of them will be existing Delaware residents and how many will be transferred in from other states.

GRT payroll will consist of 30 employees, 20 of which will be from Delaware and 10 from other states.

7.7 If employment attributable to the proposed project will vary on a seasonal or periodic basis, explain the variation and estimate the number of employees involved.

There will be no seasonal variation in staffing levels.

7.8 Estimate the percent distribution of annual wages and salaries (based on regular working hours) for employees attributable to this project:

Wage/salary	Percent of employees
<$10,000	
$10,000-14,999	
$15,000-24,999	5%
$25,000-34,999	20%
$35,000-49,999	10%
$50,000-64,999	15%
$65,000-74,999	10%
$75,000-99,999	10%
>$100,000	30%

7.9 Estimate the annual taxes to be paid in Delaware attributable to this proposed project:

State personal income taxes:	$150,000
State corporate income taxes	$200,000
County and school district taxes:	$0
Municipal taxes:	$10,000

PART 8

SUPPORTING FACILITIES REQUIREMENTS

Describe the number and type of new supporting facilities and services that will be required as a result of the proposed project, including, but not limited to:

a. Roads

b. Bridges

c. Piers and/or docks

d. Railroads

e. Microwave towers

f. Special fire protection services not now available

g. Traffic signals

h. Sewer expansion

i. Energy related facilities expansion

j. Pipelines

There will be no new supporting facilities and services required to support the proposed project.

PART 9

AESTHETIC EFFECTS

9.1 Describe whether the proposed project will be located on a site readily visible from a public road, residential area, public park, or other public meeting place (such as schools or cultural centers).

Site is located in an industrial park well away from an outside view.

9.2 Is the project site location within a half mile of a place of historic or scenic value?

There are no historic or scenic places of value within half a mile of the facility.

9.3 Describe any planned attempt to make the proposed facility aesthetically compatible with its neighboring land uses. Include schematic plans and/or drawings of the proposed project after it is complete, including any landscaping and screening.

The site is in an industrial park and the planned project will be consistent with the current industrial park setting.

PART 10

EFFECTS ON NEIGHBORING LAND USES

10.1 How close is the nearest year-round residence to the site of this proposed project?

Within 0.25-0.50 miles of the site.

10.2 Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources?

The site will not interfere with existing public or private recreational facilities or resources.

10.3 Will the proposed project utilize or interfere with agricultural areas?

The proposed project will not utilize or interfere with agricultural areas.

10.4 Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use?

No, it will continue to operate within the industrial park setting, and truck traffic will not be unusual considering current occupied use.

END OF APPLICATION

ATTACHMENTS TO FOLLOW